



Career Preparation: Helping Young Women Build Bridges to Employment

Introduction

This project is designed as an in-service activity for parents, and its purpose is to raise the consciousness of both parents and practitioners beyond the grip of traditional, stereotyped career roles for young women. Young people often mold themselves to conform to the expectations that others have for them; this activity can point participants in the direction to change those expectations.

Objectives

Participants will be able to:

- Assist parents or guardians in presenting positive attitudes toward science, math, and technology for their daughters.
- Help parents orient children toward possible future careers in science, math, or technology.
- Suggest activities and attitudes that will nurture constructive approaches to science, math, and technology for young women.

Materials

- Handouts:
 - Tips for Parents—You Can Make a Difference
 - Resources—Encouraging Females in Math and Science

Suggested Time

- 40 minutes

Preparation and Delivery

If you are adventuresome, conduct this project with parents and their daughters. The opportunities for immediate feedback and interaction between the young women and their parents or guardians can be handled constructively. Almost every girl of school age can recall instances of advice inappropriately given or opportunities denied due to sex role stereotypes that parents and educators continue to hold.

Do not simply distribute the first handout and wish the participants well; review each point, ask for questions, and make clarifying remarks. Have the second handout, **Resources—Encouraging Females in Math and Science**, ready to distribute as a follow-up activity.

1. Explain that historically, young women in our country have not benefited from general support in seeking academic backgrounds or careers in science, math, or technology. Stress that the actions and attitudes of parents are of immense importance.

2. Distribute the **Tips for Parents—You Can Make a Difference** handout.
3. Review each item, discuss, ask for questions, and clarify.
4. Distribute the **Resources--Encouraging Females in Math and Science** handout and ask if anyone is interested in obtaining copies of the materials listed.
5. Schedule a follow-up meeting or activity, possibly one to which parents will bring their daughters, nieces, or other young women of school age.

Tips for Parents—You Can Make a Difference

- Encourage your daughter or son to collect things, handle things, take things apart. They need to see the parts of bikes, clocks, flowers, and so on, and how they work.
- Do not be concerned about children always getting things right. You need to be concerned if they aren't curious and wondering about things.
- Comments to girls need to target their abilities. "You look so pretty today," and "Your handwriting is so neat"—standard comments to girls—are less helpful than "That was an insightful comment," or "Your explanation shows you've done some good thinking."
- Textbooks and other resource materials need to be monitored to make sure that women and minorities are included.
- Cut out articles in newspapers and magazines that depict females, minorities, and white males who are in scientific and technical roles. Post them on your refrigerator.
- Both parents and teachers must encourage girls to speak up—both at home and at school. (Girls tend to take a back seat to boys. They let boys do the hands-on work, the talking, the directing, while they sit back and take notes.)
- Seating arrangements in class need to be flexible because students in the front or middle of the class get more attention. Parents should know where the children sit.
- Help girls avoid perfectionism. Point out that successful people make the most mistakes because they are risk takers and learn from their mistakes.
- Reinforce with your daughter the notion that it's okay to be smart.
- Encourage your daughter to be involved with summer programs and extracurricular activities that provide encouragement and opportunities in math/science areas.
- Be cautious about "over helping" your daughter. Instead, assist her to rely on her own judgment and skills, develop independence and the ability to make her own decisions.
- Talk about career plans with your children. Point out that their future career options will be limited if they make poor class selections in high school. Set expectations early that your daughters and sons will take four years of high school math and science.
- Avoid bragging about how poor you are at mathematics and mechanical things. You wouldn't do this about your reading. Just be quiet, rather than send the message that it is okay to lack these skills.
- Maintain open lines of communication with your children about the courses they select in school. Encourage them to enroll in calculus and physics. Foster intellectual risk-taking. Remember, higher-level math and science courses increase your child's options. Receiving a B or C in a higher-level class is more valuable than an A in a general class.

Helping Young Women Build Bridges to Employment

- If your child is having difficulty in a math/science class, hire a tutor. If your daughter is doing well, she may also need a tutor to increase her skills and confidence.
- Identify role models who have careers in a scientific or technology field for your child to job shadow (spend a day on the job). These experiences have proven to have a strong impact on young people. If possible, have that professional look like your child—female for a girl, minority for a minority.
- Provide your daughter with lots of biographies. It is critical that our children learn about the lives of successful people who look like them. Seek out biographies of people who have excelled in scientific and technical fields. Your sons also need to read about successful women and minorities. Contact your school and public libraries for assistance in finding suitable books.
- Most important, remember that not all children will have the interest or desire to pursue careers in science or mathematics. Try to expose your children to many different experiences while at the same time realizing that the final choice of careers, interests, and plans of study must be theirs.

Resources—Encouraging Females in Math and Science

Poster—Dropping Math? Say Good-bye to 82 Jobs

A 60" by 46" "bulls-eye" poster with four concentric circles, each listing jobs requiring mathematics. Cost: 1-5 posters, \$2.00 each; 6-25 posters, \$1.50 each; over 25, \$1.00 each.

Mathematics Department
Toronto Board of Education
155 College Street
Toronto, Ontario
Canada M5T 1P6

Outstanding Women in Mathematics and Science (send for catalog)

National Women's History Project
7738 Bell Road
Windsor, CA 94592-8518

Videos

She's the Engineer (\$5.00)

Cornell University
Women's Programs in Engineering
167 Olin Hall
Ithaca, NY 14853

Shortchanging Girls, Shortchanging America (\$24.95)

Girls Can! (\$19.95)

AAUW Publications
P.O. Box 96793
Washington, DC 20090-6793

Failing at Fairness: 12-minute video shows fourth-grade teacher interacting with students

Failing at Fairness: 12-minute video shows high school physics teacher using different instructional practices with a co-ed class as compared with an all-female class

NBC News
P.O. Box 40398
South Burlington, VT 05407
Phone: 1-800-420-2626

Books Featuring Women's History

The Book of Women's Firsts, Phyllis J. Read and Bernard L. Witlieb.

Triumph of Discovery: Women Scientists Who Won the Nobel Prize, Joan Dash.

The Scientist Within You: Experiments and Biographies of Distinguished Women in Science (Features 20 women scientists from around the world along with experiments that demonstrate science principles relevant to their work.) Order from:

ACI Publishing
P.O. Box 40398
Eugene, OR 97404-0064
Phone: 800-935-7323

Magazines for Girls

New Moon. (A publication to expand the horizons of young girls and to give them positive role models and encouragement to pursue their dreams.) \$25/yr., 6 issues. Order through:

New Moon Publishing
P.O. Box 3587
Duluth, MN 55803-3587

Books Where the Main Characters (Heroes) Are Female

Father Gander Nursery Rhymes.

Father Gander, Advocacy Press
P.O. Box 236
Santa Barbara, CA 93103

The Paper Bag Princess, Robert N. Munsch, Annick Press, Ltd., Toronto, Canada